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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/866,311	05/25/2001	David Allan Cook	06007/37458	4324

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EXAMINER	
LOPEZ, FRANK D	

ART UNIT	PAPER NUMBER
3745	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/866,311	COOK ET AL.	
	Examiner	Art Unit	
	F. Daniel Lopez	3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,10 and 13-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,10 and 13-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *8/6/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Applicant's arguments filed May 20, 2004, have been fully considered but they are not deemed to be persuasive.

Applicant's arguments with respect to claims 1-10 and 13 have been considered but are deemed to be moot in view of the new grounds of rejection.

The declaration filed on May 20, 2004 under 37 CFR 1.131 has been considered but is ineffective to overcome the A'Hearn et al reference.

The declaration must be signed by all of the inventors (see e.g. MPEP 715.04I(A,B)), whereas this declaration is only signed by one of two inventors.

The evidence submitted is insufficient to establish diligence from a date prior to the date of reduction to practice of the A'Hearn et al reference to either a constructive reduction to practice or an actual reduction to practice. There is no evidence, since the declaration only stated that "I diligently worked with our patent counsel" (paragraph 3). Applicant must show evidence of facts establishing diligence, and can't merely allege as such (e.g. MPEP 715.07(a)); and applicant must account for the **entire** period during which diligence is required (e.g. MPEP 2138.06).

The declaration filed on May 20, 2004 under 37 CFR 1.131, and applicants remarks, concerning the incompatibility of combining a ride control system with a burst hose system, is refuted by Oliphant, which shows a ride control system (including 62) with a burst hose system (including 92).

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 112

Claims 4, 13-16 and 18 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4 line 3 –valve-- should be added after "control".

In claim 13 line 3-4 "the second control valve arranged to shift back to the first position when lowering the loader arm when in the ride improving mode" is confusing. Claim 10 line 46-48 indicates that the system provides "a ride improvement mode activated upon shifting both the first and second control valves to the second position". If the ride improvement mode is when both control valves are shifted to the second position, then shifting the second control valve out of the second position would appear to inherently move the system out of the ride improvement mode.

In claim 14 line 20 "the second mode" has no antecedent basis, and is confusing, since it appears to be referring back to the second position of the relief valve.

In claim 15 line 15 "a rigid pipe connection" should be --said rigid pipe connection--, since it refers back to that of line 13-14.

In claim 18 line 26, 31 and 38 "control valve" and line 36 "valve" should be --second control valve--, to agree with line 27.

Claims not specifically mentioned are indefinite, since they depend from one of the above claims.

Claim Rejections - 35 USC § 103

Claim 18 is rejected under 35 U.S.C. § 103 as being unpatentable over A'Hearn et al in view of Oliphant. A'Hearn et al discloses a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers (connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (26), and accepts fluid under a lower pressure from the second chamber, via a second line (28) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated piloted control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting flow

only from the accumulator to the first line in the first position (via 60), and the second control valve connected between the second line and a low pressure region (23), preventing flow therebetween in the first position; wherein the arm is raised when both the control valves are in the second position (by pilot pressure in line 34, through line 64, valve 68 and lines 49 and 70); and lowered when both control valves are in the first position; but does not disclose that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber; wherein the first valve communicates with the first line between the valve assembly and the first chamber; or wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve (90) preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the

second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm; for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm (e.g. column 7 line 54-60).

Since A'Hearn et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the purpose disclosed by Oliphant would have been recognized in the pertinent art of A'Hearn et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to include a valve assembly in the first line of A'Hearn et al, between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm, as taught by Oliphant, for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm

Claims 14-18 are rejected under 35 U.S.C. § 103 as being unpatentable over Broenner et al in view of A'Hearn et al and Oliphant. Broenner et al discloses a wheeled loader comprising an arm (6) pivotally connected to a body; a cylinder (12, 13) having first and second chambers (connected to 10, 11, respectively) connected to a manually operated selection valve, wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (10), and accepts fluid under a lower pressure from the second chamber, via a second line (11) and wherein the arm is

lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second solenoid operated control valves (33, 22, respectively) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (16-19), permitting flow only from the accumulator to the first line in the first position (via check valve in valve), and the second control valve connected between the second line and a low pressure region (23), preventing flow from the second line to the low pressure area in the first position; wherein the arm is raised or lowered when the first control valve is in the second position (e.g. column 3 line 63-65, note that control 32 is only activated when a different selection valve is activated), and the second control valve is in the first position (e.g. column 3 line 63-65, by either 30 or 31); and a sensor switch (29) sensing the position of the selection valve, to close the second control valve when the second chamber is pressurized; but does not disclose that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber; wherein the first valve communicates with the first line between the valve assembly and the first chamber; wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm; or that the second control vale is in the second position when the arm is raised.

A'Hearn et al teaches, for a wheeled loader comprising an arm pivotally connected to a body; a cylinder (16) having first and second chambers (connected to 18, 20, respectively) connected to a manually operated selection valve (24), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (26), and accepts fluid under a lower pressure from the second chamber, via

a second line (28) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated piloted control valves (50, 47) having a second position where passage of fluid therethrough is allowed and a first position, with the first control valve connected between the first chamber and an accumulator (42), permitting flow only from the accumulator to the first line in the first position (via 60), and the second control valve connected between the second line and a low pressure region (23), preventing flow therebetween in the first position; wherein the arm is raised when the the first control valve is in the second position (by pilot pressure in line 34, through line 64, valve 68 and lines 49 and 70); that the first control valve can be either in the first position (as shown in fig 1), or can be in the second position (as shown in fig 2), when the arm is raised.

Since Broenner et al has first and second control valves similar to that of A'Hearn et al, and sicne A'Hearn et al teaches the equivalence of having the second control valve in either the first or second position, during raising of the arm; It would have been obvious at the time the invention was made to one having ordinary skill in the art to have the second control valve of Broenner et al, shifted to the second position when raising of the arm, as taught by A'Hearn et al, as a matter of engineering expediency.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second manually operated control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); that there is a valve assembly in the first line between the first chamber and the selection valve, including a check valve (90) preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve

(92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm; for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm (e.g. column 7 line 54-60).

Since Broenner et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the purpose disclosed by Oliphant would have been recognized in the pertinent art of Broenner et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to include a valve assembly in the first line of Broenner et al, between the first chamber and the selection valve, including a check valve preventing flow from the first chamber to the selection valve, but permitting flow from the selection valve to the first chamber, and a relief valve (92) shiftable from a first position, where flow is prevented in either direction, between the first chamber and the selection valve, and a second position, where flow is permitted from the first chamber to the selection valve; wherein the relief valve is shifted to the second position in response to a pressure increase in the second chamber (via 100); wherein the first valve communicates with the first line between the valve assembly and the first chamber; and wherein the relief valve is in the first position, for raising of the arm and in the second position, for lowering the arm, as taught by Oliphant, for the purpose of preventing any unintentional lowering of the cylinder under the weight of the arm

Concerning claim 15, Broenner et al modified by A'Hearn et al and Oliphant does not show a system where the ride improving circuit has an active and an inactive configuration; or that there is a rigid pipe connection between the check valve and the first chamber.

Official notice is taken that it is well known the make a ride improving circuit with an active and an inactive configuration, switchable by a manually operated control switch; and that it is well known to use a rigid pipe connection between various valve elements and hydraulic actuators. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the ride improving circuit of Broenner et al with an active and an inactive configuration, switchable by a manually operated control switch; and to use a rigid pipe connection between the check valve of Broenner et al and the first chamber, as a matter of engineering expediency.

Claim 10 is rejected under 35 U.S.C. § 103 as being unpatentable over A'Hearn et al in view of Oliphant, as applied to claim 10 above; and claims 3; and 1, 2, 4-7 and 13; are rejected under 35 U.S.C. § 103 as being unpatentable over Broenner et al in view of A'Hearn et al and Oliphant, as applied to claim 15 and 14, respectively above, and further in view of Bauer. The modified A'Hearn and Broenner et al discloses all the elements of claim 10 and claims 1-7 and 13, respectively; but does not disclose that the arm is connected at or adjacent the rear end of the body.

Bauer teaches, for a wheeled loader comprising an arm (21) pivotally connected to a body (12, 13) and extending forwardly, such that a working implement (27) is in front of the body; a cylinder (25, 26) having first and second chambers (connected to 230, 231, respectively) connected to a manually operated selection valve (80), wherein the arm is raised when the selection valve allows pressurized fluid into the first chamber and accepts fluid under a lower pressure from the second chamber, and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; that the arm is connected at the rear end of the body.

Since the wheeled vehicles of A'Hearn et al and Broenner et al are functionally equivalent to the wheeled vehicle of Bauer; It would have been obvious at the time the invention was made to one having ordinary skill in the art to replace the wheel ed vehicle of either the modified A'Hearn et al or the modified Broenner et al with a

wheeled vehicle having the arm connected at the rear end of the body, as taught by Bauer, as a matter of engineering expediency.

Concerning claims 5 and 6, the modified Broenner et al, as discussed above, does not show the accumulator, control valves, and valve assembly mounted directly onto the cylinder; or that at least one of the accumulator, control valves, and valve assembly is made of metal.

Oliphant teaches, for a wheeled vehicle comprising a cylinder (66) having first and second chambers (73, 75, respectively) connected to a manually operated selection valve (85), wherein an arm (18) is raised when the selection valve allows pressurized fluid into the first chamber, via a first line (91, 89) and accepts fluid under a lower pressure from the second chamber, via a second line (93, 95) and wherein the arm is lowered when the selection valve allows pressurized fluid into the second chamber and accepts fluid under a lower pressure from the first chamber; a ride improving circuit including first and second control valves (96, 122), wherein the first control valve is connected between the first line and an accumulator (101); and a valve assembly in the first line between the first chamber and the selection valve, that the accumulator, control valves, and valve assembly mounted directly onto the cylinder (e.g. fig 6).

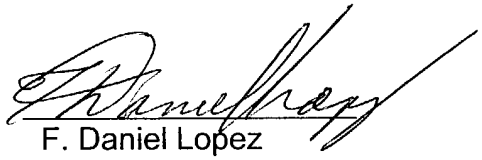
Since the modified Broenner et al and Oliphant are both from the same field of endeavor, wheeled vehicles with ride control systems, the mounting of the accumulator, control valves, and valve assembly disclosed by Oliphant would have been recognized in the pertinent art of the modified Broenner et al. It would have been obvious at the time the invention was made to one having ordinary skill in the art to mount the accumulator, control valves, and valve assembly of the modified Broenner et al directly onto the cylinder, as taught by Oliphant, as a matter of engineering expediency.

Official notice is taken that it is well known to make accumulators and valves, of metal. It would have been obvious at the time the invention was made to one having ordinary skill in the art to make the accumulator, control valves, and valve assembly of the modified Broenner et al of metal, as a matter of engineering expediency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Lopez whose telephone number is (703) 308-0008. The examiner can normally be reached on Monday-Thursday from 6:30 AM -4:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Look, can be reached on (703) 308-1044. The fax number for this group is (703) 872-9302. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0861.



F. Daniel Lopez
Primary Examiner
Art Unit 3745
September 3, 2004